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A SCALP CARE AGENT AND ITS USE

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There are already known agents for scalp care that are topically used to counteract hair loss, oily hair, increased dandruff and itching of the scalp. The known agents of this kind

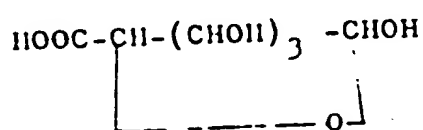
contain, for example, blood-flow-stimulating compounds like nicotinates, anabolic hormones like estradiol or prednisolone, panthenol or colloidal sulfur.

The task on which the invention is based now consists of developing new topically applicable agents for care of the scalp that have better effect than the agents previously known in this area.

The scalp care agents in accordance with the invention contain at least one uronic acid, preferably glucuronic acid, in a substantially known carrier material that is pharmaceutically compatible for external application.

It was surprisingly established that when the scalp is treated with an agent in accordance with the invention, itching of the scalp and excessive secretion by the sebaceous glands of the scalp disappear, flaking and hair loss as well as graying of the hair decrease, the individual hairs become stronger, hair growth is promoted and the hair develops the appearance of having greater volume. Allergenic phenomena were not observed. The agents in accordance with the invention can be used as cosmetics or even as therapeutic or prophylactic medicinal agents.

Uronic acids are organic acids that result from oxidation of the terminal primary alcohol groups  $-CH_2OH$  in monosaccharides. Examples of these are glucuronic acid, which was already mentioned, galacturonic acid or mannuronic acid. In correspondence with this definition, glucuronic acid thus has the formula



It is formed in the liver by oxidation of glucose and, through chemical bonding to harmful metabolic products with the formation of glucuronides, leads to accelerated elimination of these metabolic products via the kidneys.

As a substance produced in the body, glucuronic acid is nontoxic, and toxic effects in external application to the skin are also not known with the other uronic acids. Examples are D-glucuronic acid and glucuronic acid  $\gamma$ -lactone. The agent in accordance with the invention expediently also contains vitamin C, in particular in an amount of 0.1 to 10, preferably 0.5 to 3 g, per mL of carrier material when the carrier is in liquid form. The effect of the uronic acid is increased by vitamin C.

The carrier material can be a conventional carrier material for topical application such as an ointment base, a powder or, above all, a liquid carrier material like water, ethanol or an aqueous ethanol solution. The uronic acids can be in dissolved, emulsified or suspended form in liquid carrier materials. In the latter cases, it is expedient to shake the emulsion or suspension

before use in order to distribute the active agent uniformly in the liquid carrier material. Liquid carrier materials like water or ethanol or isopropanol are thus particularly preferred, since they can be particularly intensively rubbed into the scalp. Favorable carrier materials consist of equal parts by volume of water and ethanol and/or isopropanol.

Of course, the agents can contain, in addition to the uronic acids, other substances that are substantially known for treatment of the scalp, so that, for example, one can use substantially known hair tonics or hair treatment agents, to which the said uronic acids are added, as the carrier materials.

The uronic acids are preferably contained in liquid carrier materials in an amount of 0.1 to 10 g per 100 mL of carrier material, with the usual concentrations being from 0.5-5 g/100 mL.

Topical treatment takes place in the same way as with hair tonics, with the treatment expediently being carried out every day at the start, then every other day and then every four to five days. With this treatment, for example, with an agent containing 1 g D-glucuronic acid in 100 mL water or aqueous ethanol (1:1) in a daily dosage of 5 mL, removal of oil from the hair takes place relatively rapidly, a decline of the increased dandruff and itching of the scalp occurs already in the second week, and after only 8 days, a decrease of hair loss occurs. The hair acquires greater volume, and the time for reoccurrence of these symptoms becomes increasingly greater in the course of treatment. With controlled shampooing and daily combing, a significant decline of hair loss develops. It is additionally notable that the time before the next necessary shampooing increases significantly, for example, from 2 to 14 days. New hair growth appears with approximately six months of daily use of the agents.

### Claims

1. A scalp care agent which is characterized by the fact that it contains at least one uronic acid as active agent in a substantially known carrier material that is pharmaceutically tolerable for topical application.
2. A scalp care agent as in Claim 1, which is characterized by the fact that it contains glucuronic acid, especially D-glucuronic acid, or glucuronic acid  $\gamma$ -lactone as uronic acid.
3. A scalp care agent as in Claim 1 and 2, which is characterized by the fact that it contains the uronic acids in a liquid carrier material in a concentration of 0.1 to 10 g, preferably 0.5 to 5 g per 100 mL carrier material.
4. The use of a scalp care agent as in Claim 1 to 3 for cosmetic scalp care.